IN THE SPECIFICATION:

Revise the paragraph beginning at line 7 on page 1, as follows:

A1

The present invention relates to a switching method and equipment, wherein a serial bus is connected with extension nodes having asynchronous interfaces and isochronous interfaces for switching signals between an outside line and extension lines and between the extension ~~lines~~ lines.

Revise the paragraph beginning at line 29 of page 6, as follows:

A2

Further, according to the present invention, 64 Kbit data can be transmitted from the ~~extesion~~ extension node by using the convention 64 Kbit CODE, and the addresses are managed by a simple table by fixing the channel assigned at the time of the call-in and call-out.

Revise the paragraph beginning at line 13 on page 1, as follows:

A3

Conventionally, switching devices for home use are simple, because they are provided merely with an analogue or digital voice switch. Recently, however, information devices such as personal computers ~~are~~ have been introduced into the home, and digital broadcasting ~~becomes~~ has become popular. Therefore, there are growing needs for distributing image signal, data signal, ~~vioce~~ voice and audio signal to an individual or to individuals simultaneously.

Revise the paragraph beginning at line 24 on page 1, as follows:

Further, IEEE 1398 (IEEE Std. 1394-1995 IEEE Standard for a High Performance Serial Bus) is known by its real time and high speed performance, and plug-and-play capability. Therefore, IEEE 1394 can be used in a high speed network for multi-media signal into the home. IEEE 1394 applied to the home telephone is exemplified in Figure 15. As shown in Figure 15, digital ~~vioce~~ voice signal 601 loaded at step 602 on IP packet (Internat Protocol packet) 603 is transmitted at steps 604, 605 by asynchronous transfer ~~of~~ on IEEE 1394 bus 301 toward a person on the other end of the line. Voice signal 601 is recovered by ~~assembling~~ disassembling the IP packet 603 and reassembling them at step 602 to become the audio signal 601 at the receiving end. Such a telephone system as explained above simply is called IP telephony defined by ITU-T H323.

A4

Revise the paragraph beginning at line 25 on page 2, as follows:

~~Connection~~ The connection route is changed often or even stopped by a bus reset on IEEE 1394 for plug-and-play. However, the communication should not be interrupted by such a ~~bas~~ bus reset.

A5

Revise the paragraph beginning at line 21 on page 8, as follows:

A protocol stack of the exchange system is shown in Figure 1. The exchange system of the present invention comprises gateway node 700 which is connected with a network such as ~~a analogue~~ an analog line and ISDN (Integrated Services Digital Network), one or more extension nodes 201, and IEEE ~~1391~~ 1394 bus 301.

Revise the paragraph beginning at line 25 on page 9, as follows:

Resource manager 401 prepares a control table for controlling extension ~~table~~ node 201 and gateway ~~node700~~ node 700. The control table is exemplified in Figure 2. ~~Simplified~~ The simplified exchange number as shown in Figure 2 is a number fixed to the physical layer.

Revise the paragraph beginning at line 16 on page 10, as follows:

A hardware block diagram of gateway node 700 is shown in Figure 3. IEEE 1394 bus 301 is connected with physical layer device 701 which is further ~~cinnected~~ connected through link layer device 702 with both asynchronous (ASYNC) interface 703 and isochronous

(ISOCH) interface 704. Both ASYNC interface 703 and ISOCH interface 704 are connected through internal bus interface 710 with memory 709 and CPU 708. Gateway node 700 as shown in Figure 3 inputs and outputs outside line signal by using outside line interface such as S-IF to and from memory 709 and CPU 708. B-ch indicated as 706A and ISDN layer 2/layer 3 indicated as 706B are exemplified in Figure 3.

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Revise the paragraph beginning at line 7 on page 11, as follows:

Concretely, CPU 708 as shown in Figure 3 or 4 accepts setup registration of reception mode and stores it in memory 709 beforehand. The setup registration is sent to CPU 708 from extension node 201 through physical layer 701, link layer 702, ASYNC interface 703, and internal interface bus ~~702~~ 710. Here, the reception mode is selected by using operation board such as ten key and is stored in memory 709. The reception mode may be, for example, a mode for calling extension node 201 with or without limiting call originators, a mode for recording the voices automatically with or without limiting call originators.

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Revise the paragraph beginning at line 18 on page 12, as follows:

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User terminal 215 further comprises user interface 215A including an operation board

and ~~vioce~~ voice input/output apparatus such as a microphone and a speaker, and voice memory 215B for automatic recording during absent time. User terminal 215 may comprises a display for receiving visual signals.

Revise the paragraph beginning at line 4 on page 13, as follows:

Extension node 201 transmits and receives the control signal of code extraction unit 217, ~~ecccutes~~ executes media stream transform of data such as voice data, controls the operation board in user interface 215A, and drives the speaker. The ~~vioce~~ voice data may be coded by CODEC 218 and is sent to buffer 219 every 8 kHz sampling.

Revise the paragraph beginning at line 25 on page 14, as follows:

In the present invention, ~~sybchronous~~ a synchronous interface may be, for example, an interface for isochronous (ISOCH) transfer.

Revise the paragraph beginning at line 12 on page 15, as follows:

ISOCH interface 704 outputs voice at 100 to 400 MHz every 125 μ sec, at real time,

without re-transmitting, even when some errors have occurred. The outputted voice signalis converted into 64 Kbps ISDN signal by rate conversion means 731, processed by μ LAW/ CODEC 732, and outputted from speaker 734. Reversely, ~~vioce~~ voice signal inputted into microphone 733 is transferred to g LAW/CODEC 732.

A13

Revise the paragraph beginning at line 2 on page 16, as follows:

Concretely, bus managers 751 for client and 750 for server control by using a common manner for the client and server microphone/speaker, operation board, 721, and display ~~721~~ 720.

A14

Revise the paragraph beginning at line 17 on page 17, as follows:

A block diagram of gateway node 700 for telephone data and TV data is shown in Figure ~~11~~ 12. Telephone gateway 727 connects NCU (Network Control Unit) with IEEE 1394 bus 301, while TV gateway 728 connects digital TV with IEEE1394 bus 301. Operational data for controlling terminals and server are sent through ASYNC channel to IEEE 1394 bus 301. For example, the billing information for digital TV is one of the operational data of telephone. Telephone gateway 727 and TV gateway 728 are included in

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A15

CPU 708 as shown in Figure 3.

Revise the three sequential paragraphs beginning at line 13 on page 18, as follows:

In case of the automatic transfer by ND at step 904, an ISOCH channel is selected, in step 905, on the basis of ND number, prescribed numbers to be transferred, and extension data.

A16

In case of the global call-in at step 906, call signals to all the terminals are sent, in step 907, through ASYNC interface 704.

In case of the manual transfer at step 908, in steps 909-912, a call signal is sent to a switching node or prescribed terminal, on the basis of an instruction from operation board 721.

Revise the paragraph beginning at line 25 on page 18, as follows:

A17

When CPU 708 confirms a reply from extension node 201, in step 913, CPU 708 secures ISOCH channel for extension node 201 and ISOCH channel for the outside line at step 914, thereby starting communication at step 915. ISOCH channels are secured till the end of call.

Revise the paragraph beginning at line 6 on page 19, as follows:

A flow chart of call-out from an extension to the other extension or an outside line is shown in Figure 14. Connection is requested by connection request at step 950 and by inputting an object telephone number or object ID at step 951. The object ID is an object extension number, or an object outside line number together with prescribed number for calling out the outside line. When gateway node 700 accepts the connection request, it confirms the call status at step 952. When the object is idle, ISOCH channel for transmission is secured at step 953, and Ch-ID is secured at step 954. Further, the call status is sent to every node at step 955. Likewise, ISOCH channel for reception is secured at step 956, Ch-ID thereof is secured at step 957, and the call status is sent to every node at step 958. Then, at step 959, the call-out signal is sent to the object through ASYNC channel. When the object replies at step 960, communication is started through ISOCH channel at steps 961 and 962. On the other hand, when the object does not reply at step 963, a call signal is sent repeatedly, and a call status indicating that the object does not reply is sent at step 964 to the node which requests the ~~cal-out~~ call-out. When the call-out is ended successfully at step 962, or when on-hook by the node which requests the call-out is detected due to at step 965, ISOCH channel is released at step 966, and call status is sent to every node at step 967.